Communications Division

Shortly after the Missouri State Highway Patrol was organized in 1931, the need for a means of communicating with the officers in the cars was recognized. At that time, the officers used the telephone to call in information to their troop headquarters or to General Headquarters in Jefferson City. The dissemination of general police information to officers on patrol could not, however, be effectively handled in this manner. In its search for a method of getting information to these officers, the Patrol turned to the use of bulletins broadcast over radio station WOS, an AM station located in Missouri's Capitol building and operated by the Department of Agriculture. Patrol cars were equipped with regular automobile AM broadcast receivers, which were tuned to WOS at predetermined times for Patrol bulletins. While this proved to be an important step in the right direction, it was far from satisfactory. Bulletins were necessarily limited due to the fact that the public could easily overhear information being broadcast. They were also limited to daylight hours since WOS was licensed to operate only during daylight hours. Then, too, coverage was often poor on WOS's frequency of 630 kilohertz (or kilocycles in those days.) Jesse M. Wherritt, first director of Radio (1935 – 1945) was a radio-licensed patrolman.

In 1936, when the operation of WOS was discontinued by the Department of Agriculture, the Patrol purchased the transmitting equipment. It was converted by Patrol personnel to operate on the regular police channel of 1674 kilohertz and licensed under the call letters KIUK. It became a 24-four hour station and power authorization was increased to 2,500 watts in the daytime and 1,000 watts at night. At this time, the Patrol began full-time radio operation from the Capitol building. The equipment was converted and operated by officers of the Patrol who were licensed radio operators, also.

While this progress was being made, the Patrol also was making plans for communication with other departments in other states for the purpose of exchanging police information. In 1936, a radiotelegraph transmitter was installed in Jefferson City for the purpose of handling messages with other states on the radiotelegraph net.

Encouraged by the progress made in the communications field, the Patrol began immediately to plan for the expansion of the communications system to provide complete coverage over the entire state. In 1937, a plan was presented to the legislature which outlined the building of six troop headquarters buildings, each to be equipped with radios for one-way (station to car only) communication with the units of that particular troop. The proposal also included necessary funds for the addition of sufficient radio personnel to operate these stations on a 24- hour basis. This plan was approved by the legislature and work was begun immediately to put the plan into operation. While the construction of the

buildings was under way, the Patrol began the process of hiring and training radio operators for the operation of the new stations. By the time the first building and station were ready for operation, 15 operators had been trained and a simple manual of operating procedures had been created for the efficient operation of the new communications system. Stations at Lee's Summit, Macon, Kirkwood, Springfield, and Poplar Bluff were completed in early 1939 and network operation began. At the same time, a new headquarters building was completed in Jefferson City and the radio station moved there from the Capitol building. By the time all six were in operation, the personnel of the Radio Division had grown to 24 operators. Following is a list of the radio operators from a January 1940 personnel roster which is the earliest roster we still possess. It is unknown why badge numbers two and three were skipped.

1	Harry Duncan	F	13	George Wallace	A
2			14	Frank Huber	A
3			15	E. Jack Scroggins	F
4	A.L. Woods	D	16	W.A. Hanks	F
5	Urso George	F	17	R.L. Wilcox	D
6	Charles O. Alexander	F	18	Henry Reiter	E
7	Sanford N. Turk	D	19	Norman Harrison	F
8	Jacob R. Bowers	F	20	Oscar Wittrup	B
9	Clarence Cox	B	21	John Bass	E
10	Joseph E. Martin	F	22	Clarence Fish	C
11	Parker Kilby	C	23	J.F. Padberg	F
12	Garland Winn	B	24	J.C. McAdam	E
			25	Ed Schaper	A

With this radiotelephone network in operation, it soon became apparent there was a need for additional means of communication between troop headquarters as atmospheric conditions frequently prevented communications on the radiotelephone network. Plus, it became obvious that inter-troop communications needed to be kept off the regular frequency as much as possible to avoid interference between stations and from stations to cars. Therefore, late in 1940, radiotelegraph transmitters were added at each of the troop headquarters stations. These were Collins. 10 channel, automatically tuned units to be operated at a power of 500 watts. This proved to be an important step toward the efficient handling of communications between our own troop stations as well as those of other states and greatly reduced radio traffic on the radiotelephone channel. This allowed information to the officers to be handled more expeditiously.

In the first five years of the 1940s, World War II causes severe personnel shortages on the home front. The Missouri State Highway Patrol hired several women as radio operators on a temporary basis until the war ends.

In 1941, the Missouri State Highway Patrol conducts tests to determine the feasibility of two-way communications between the cars and the stations. However, since these tests were conducted with amplitude modulated (AM) type transmitters on frequencies which made efficient antenna systems impossible and were necessarily made with low powered units, it was found that the transmitting range was insufficient for extensive statewide use. It was about this time that frequency modulated (FM) equipment began to appear on the market.

In late 1941, the Missouri State Highway Patrol purchased 10 units which were distributed to the troops to test. These proved to be as good or better than expected and a new era in police communications was born. The Patrol began equipping all cars with FM transmitters which operated on 39.78 megahertz. The FM transmitters in the cars worked out so well the Missouri State Highway Patrol began giving considerable thought toward the use of FM transmitters in the troop headquarters stations. This was in an effort to get away from the interference problems, which had become greater with increases in radiotelephone traffic. Amplitude modulated signals, like the signals from standard broadcast stations, will interfere with each other and are more susceptible to static and electrical noise. Frequency modulated signals, on the other hand, are much less affected by static and cause less interference since the stronger signal usually takes over completely eliminating the weaker station.

In the mid-1940s, few agencies had FM transmitters. The California Highway Patrol did not completely switch from AM until the 1960s. Plans for installing frequency modulated transmitters in the six troop headquarters began materializing in 1946, when 250 watt FM transmitters were installed at each troop headquarters to replace the old AM equipment. At that time, all equipment was shifted to the 42 megahertz band in accordance with a reallocation of frequencies dictated by the Federal Communications Commission. Station transmitters operated on 42.06 megahertz while mobile units normally operated on 42.22 megahertz. Mobile units could also switch to 42.06 megahertz for car-to-car transmissions. These frequencies are still being used in some troops.

Also in 1946, two new troops were formed-–one at Willow Springs and the other at St. Joseph. These included counties that were previously part of other troops. The new troops were formed in an effort to aid in giving better radio coverage in those counties as well as to permit better administration of the areas involved. The new troops were equipped with FM radiotelephone and radiotelegraph equipment similar to that of the other troop headquarters already in operation.

In the latter part of 1947, after obtaining an experimental license from the Federal Communications Commission under the call sign WOXAN, the Missouri State Highway Patrol installed a three kilowatt FM transmitter in Jefferson City for the purpose of conducting tests and compiling data which could be used to justify the use of these new, higher powered transmitters on the police radiotelephone channels. The Patrol helped pioneer the use of high power transmitters on police radiotelephone frequencies and was instrumental in

bringing about FCC approval of the higher power systems for all police agencies. In 1948 and 1949, similar transmitters were installed in all troop headquarters resulting in much improved coverage. These radios, based on continuously transmitting FM broadcast radios were developed by Fred Link to be transmit switchable allowing clear air when the radios were not broadcasting. In the same years, a number of automatic relay stations were installed on towers around the state to relay transmissions from cars in the more remote areas back to the troop headquarters. Thus, a system of two-way communications was established which would allow cars in any part of the state to receive broadcasts and talk back to their troop headquarters.

During this same period, low powered transmitters and receivers were installed in several weigh stations around the state. This allowed the weigh stations to communicate with their troop headquarters as well as to contact local troopers when the need arose. Eventually, all weigh stations would be equipped with two-way radios.

In 1950, another new troop was formed with headquarters at Rolla. Troop I comprised six counties along U.S. Route 66 in the Fort Leonard Wood area. This troop was also equipped with the three kilowatt Link FM radio as well as with radiotelegraph. Troop I continues as the smallest troop in the state along what is now Interstate 44.

By the early '50s, there had been a steady increase in the number of city and county law enforcement agencies with whom the Highway Patrol maintained radiotelephone contact. With this increase, it became necessary to add separate radios at Lee's Summit and Kirkwood to handle the added traffic. These radios operated on the statewide point-to-point frequency of 155.37 megahertz. This allowed radio traffic with the county and municipal agencies in the two troops to be conducted without tying up the regular Patrol channels and interfering with the radio traffic with our own mobile units. These two radios were installed in the spring 1954. Similar radios were installed at Troop H in St. Joseph in 1968, and at Troop D in Springfield in 1970. During the early seventies, point-to-point radios were installed at the remaining five troops as well.

In 1955, the Highway Patrol installed a toll teletype machine at the Net Control Station in Jefferson City (Troop F) for the purpose of providing contact with those states not equipped with radiotelegraph. Messages handled on toll teletype cost slightly less that a long distance telephone call to the state involved. For this reason, the bulk of our out of state radio traffic at that time continued to be handled on radiotelegraph since this involved no charges for individual messages.

In the fall 1959, the Highway Patrol added the frequency of 42.38 megahertz to the regular FM radios. This allowed our troops to communicate with each other by voice without having to use the regular Patrol frequencies, which were becoming increasingly busy.

In April, 1962, a statewide private line automatic teletype network was installed by the Missouri State Highway Patrol. This permitted the sending and receiving of messages between the troops, General Headquarters, and the Motor Vehicle Bureau automatically by means of perforated paper tape. This was brought about by the rapidly increasing volume of message traffic on the Zone Radiotelegraph Net. Teletype provided a much faster method of handling message traffic. Since that time, teletype has given way to modern, high speed computer equipment which serves as the primary method of communications between troops and other agencies. Though the teletype machine no longer exists, many people still refer to computer messages as "teletypes."

In March 1965, the Missouri State Highway Patrol joined the Midwest Law Enforcement Teletype Network. This network was formed for the purpose of handling messages to and from various Midwestern states by means of automatic, leased, private line teletype. A short time later, this network became part of a newly formed national message switching system. By the early 1970s, this switching system had evolved into the National Law Enforcement Teletype System (NLETS). By the 1990s, NLETS had further evolved into a computer based, continent-wide switching system serving all states and provinces in the United States and Canada and had replaced "Teletype" in its name with "Telecommunications." Through NLETS, state systems are interconnected through a common switching system based in Phoenix, AZ, providing rapid communications between departments throughout North America.

In January 1968, the Missouri State Highway Patrol installed a terminal on the National Crime Information Center (NCIC) network. NCIC was a newly formed, nationwide computerized file of police information maintained by the Federal Bureau of Investigation in Washington, D.C., with terminals in all of the continental United States and in many of the larger cities' police departments. Through NCIC, police officers anywhere in the United States have instant access to nationwide files of stolen vehicles, wanted and missing persons, and stolen property. Now, in the 21st century, NCIC has become one of the most important tools in the law enforcement field.

In the Spring 1968, the Missouri State Highway Patrol began switching its statewide teletype circuits through the St. Louis Police Department's computer system rather than by mechanical polling. This provided personnel with experience to be used in the planned installation of the Patrol's own computer system. On October 21, 1969, the Patrol's communications switching program was transferred to the newly installed Highway Patrol computer in Jefferson City and the Missouri Law Enforcement Telecommunications System was born. This system provided a separate line from each of the original teletype machines to the Patrol computer, and thus allowed teletype message to be handled more quickly. The MOLETS network was later interfaced with the National Crime Information Center computer so that NCIC inquiries and entries could be made from any terminal on the network. MOLETS was also interfaced with the Region 5 computer network in St. Louis, the Kansas City Police Department's computer

known as ALERT (Automated Law Enforcement Response Team), and the Missouri Department of Revenue (DOR) computer. The St. Louis Region 5 system would later become REJIS (REgional Justice Information Service.)

MOLETS continued to expand its operation to include and on line file of stolen license plates, stolen vehicles, and both serialized and non-serialized articles. Seeing the benefits to law enforcement with this system, the Highway Patrol began to make terminals available to sheriffs departments and police departments around the state on a fee basis.

In July 1971, at the suggestion of Major Sam Smith of the Missouri Highway Patrol General Headquarters, MOLETS changed its name to MULES – Missouri Uniform Law Enforcement System. MULES became a computer-to-computer interface between terminals and other computer systems in Missouri and other states. MULES would grow into a system providing rapid access to files containing stolen licenses, stolen vehicles, stolen property (later moved solely to NCIC), wanted and missing persons, criminal history information, weather reports, and a message switching system. It would also provide interface to DOR, NCIC, and NLETS. By the 1980s, with the growth of law enforcement computer systems, both NLETS and NCIC will decree that one system in each state must be designated as control system and all computer traffic in or out of the state will pass through this system. For Missouri, MULES was designated as the control system and the Missouri State Highway Patrol as the state Control Terminal Agency.

With the continuing expansion of MULES into the county and municipal venues, the Highway Patrol's Communications Division is assigned the responsibility of training terminal operators. Ed Keeney, an operator at Troop F in Jefferson City, is given the duties of training all new MULES terminal operators throughout the state. He develops a curriculum for a week-long inquiry school followed a month or so later with a week-long entry school. Ed spends much of his time traveling around the state presenting these classes as more agencies are added to the growing network.

Throughout the '70s, law enforcement communications and computer systems continued a rapid growth in capabilities and technology. During this time, MULES moved from teletype machines to the new computer terminal equipment based on the IBM Selectric typewriter. Setting in a table like frame about three feet on each side, these 2740 computer terminals required a "high speed" telephone line of 600 baud. Out on the road, the Highway Patrol experimented with replacements for the tripod mounted radar units, which were operated by designated officers who traveled through several counties on a rotating basis. Moving radar is eventually legalized in Missouri and units are eventually assigned to all road officers. As with other electronic devices, the size of radar units continues to decrease. As these and other electronic equipment are added to the patrol cars, the installation and maintenance of the equipment becomes the domain of the Communications Division.

In the early 70s, the growth of population centers throughout Missouri made it necessary to expand the Patrol's administrative coverage. Thus, the first of three satellite stations begins operation in Troop E at Sikeston in 1973. The Troop D's satellite at Carthage comes on line later in 1973, and Troop C will open a satellite at Flat River eight years later. Each satellite station is equipped with radios similar to the troop headquarters and is staffed by personnel with the title of office manager. Many of the original office managers were weight inspectors and driver examiners originally. By the early 1990s, they become part of the Communications Division.

Also with this growth, the need for further improvements and separation in radio communications becomes necessary and a plan to move adjoining troops to different frequencies within the 42 megahertz range is implemented in the late 1970s. The system undergoes several modifications and improvement over the years as it evolved into the multi-channel system used today.

In 1973, significant computer equipment changes occurred with the replacement of the hard copy IBM 2740 terminals with IBM 3270 video displays and separate printers. At Troops A, C, D, and F, this provided a separate terminal at each operating position where in the past, the single 2740 had to be shared. Also in 1973, the 25-year-old all tube Link radios became backups to the newly installed and hybrid tube/transistor GE-PECO radios.

The ability for rapid retrieval of vehicle registration and drivers information from other states became a reality in 1973 when ALECS (Automated Law Enforcement Computer System) began operation. This Illinois based system allowed users in eight Midwestern states to access each other's licensing files. Curiously, when this system began operations, the state of Kentucky only computerized records of suspended or revoked drivers. This meant a response of "Not on File" from Kentucky meant the person was either valid or had no license. A year later, NLETS becomes computerized and changes its name to National Law Enforcement *Telecommunications* System. ALECS ceases operation as it is absorbed into NLETS, which eventually expands to provide switching service to all of North America.

The mid-1970s saw a dramatic rise in the popularity of Citizens Band radios throughout the country. This popularity even spawned popular "story" records such as "Convoy" and "White Knight" while the impact on the Highway Patrol led to the acquisition of 714 CB radios for the Patrol cars and CB base stations in each troop headquarters, satellite, and weigh station. The Patrol was assigned the call sign of KMO-0911 and officers and troop radio rooms began monitoring CB channel 9 for emergency calls.

By the mid-1970s, the Communications Division has grown to 99 operators throughout the state at troop headquarters and the radio shop in Jefferson City. As more duties are added to the division's personnel, the need for additional supervisors becomes apparent and the position of assistant chief operator is created with one person at each troop filling this position. The complement of assistant chiefs will double by the end of the 20th century.

Previously illegal in Missouri, moving radar was approved for use and, in 1975, the Patrol acquired 99 moving radar units. Thirty-four non-moving units were added as well, bringing our total to 202 radar units of various configuration assigned to officers around the state.

By 1978, MULES had grown to serve over a 150 agencies throughout Missouri. The impact this had on the Communications Division was twofold – with more agencies having their own equipment, fewer entries and inquiries were received from these agencies, which allowed Patrol radio operators more airtime for our own officers. However, with more county and municipal terminal operators, training of these persons and the technical expertise provided to them by our operators also increased. To ease the training burden, a second radio operator from Troop F was assigned to assist Ed Keeney.

In 1979, the emphasis on moving radar resulted in the goal of issuing a unit to all road officers. Toward accomplishing this goal, an additional 311 units were acquired bringing our total assigned moving units to 588. Another milestone occurred in 1979, with the Patrol's hiring of the first female radio operator since World War II, when female radio operators were hired on a temporary basis as so many other companies and industries had done. In a mostly female dominated profession, the Highway Patrol was one of very few agencies in Missouri whose radio operators were all male. By the start of the 21st century, the Patrol's ratio of female to male had grown to over 50 percent.

It's 1981-–the Missouri Highway Patrol's 50th anniversary! The third satellite station begins operation in Troop C at Flat River. The number of assigned radar units has grown to 922. Also in 1981, the number of MULES terminals had grown to such an extent that it was no longer possible for the two rrainers assigned to the Communications Division in Jefferson City to keep up with the demand. As a result, a training specialist is designated at each troop headquarters. This provides the MULES agencies with a "resident" trainer to conduct their training and to answer questions about day-to-day operation of their computer equipment. The nine original training specialists (now titled radio & telecommunications training engineers) were:

Bob Heald	Troop A, Lee's Summit
Larry Willingham	Troop B, Macon
Jim Biggerstaff	Troop C, Kirkwood
Delbert McCormick	Troop D, Springfield
Tim Wever	Troop E, Poplar Bluff
Richard King	Troop F, Jefferson City
Arlie Toll	Troop G, Willow Springs
Roger Heard	Troop H, St. Joseph
Pat Botts	Troop I, Rolla

By this time, Ed Keeney, the original trainer had been promoted to chief operator at Springfield. Stan Strope and John Lewis were the trainers in Jefferson City. With the creation of the training specialist position, Stan Strope became the chief trainer and John Lewis transferred to the radio shop.

By 1982, the MULES network had grown to nearly 300 terminals throughout the state and the average number of monthly transactions had increased to over 5 million. Ten years earlier in 1972, there were 47 terminals accounting for an average monthly usage of 400,000 transactions. This number would continue to grow dramatically and, for June 2003, there were 11,655,850 transactions handled by the MULES network.

On April 30, 1984, the first MULES Training Conference was held at the Ramada Inn in Jefferson City. Originally known as the MULES Users' Conference, the two-day event draws 153 participants from around the state as well as some attendees from neighboring states. The conference, a joint production of the Communications Division and the Information Systems Division, becomes a popular event held every 18 to 24 months and draws an average of 350 people per conference. By the start of the 21st century, due to computer changes and various other reasons, the conference goes on hiatus. It will resume in 2006.

For the first time in over 25 years, in 1984, a new frequency was added to the Highway Patrol's low band group of frequencies allowing for future system growth and an additional car-to-car frequency. A year later, the MULES network had grown to 430 terminals, and monthly transactions to almost 7 million. Also in 1985, a hiring age litigation was settled, allowing the Patrol to fill five operator vacancies which had existed since 1982.

Among the computer changes occurring at mid-decade was the implementation in 1986 of the FBI's standard for training of computer terminal operators and the designation of a state control point. As mentioned earlier, the Missouri State Highway Patrol was designated as Control Terminal Agency for the state of Missouri. Along with this came the restriction in 1987 that any NLETS and NCIC traffic to and from the state must be routed through MULES. Prior to this standard, which NLETS adopted a few years prior to NCIC, REJIS and ALERT each had their own lines to NCIC. Missouri was one of only two states (the other was Texas) which had three separate systems accessing NCIC. Another part of the FBI standard required the biennial audit of agencies accessing computer Hot Files and Criminal History Files. This biennial audit, called a Terminal Agency Performance Review in Missouri, was added to the duties of the Communications Division's training staff.

The search for a computerized logging system to replace the typewritten logs begins in 1986 with evaluation of several Computer Aided Dispatch (CAD) systems. The determination is made at the time that none are suitable to the Patrol's operation and development of an "in-house" system is undertaken. The HP70 system, a joint project of the Communications Division and Information Systems Division, comes online as a pilot project at three troops in late 1988. A few months later, it is activated at the remaining troops.

The decade of the 1980s also sees a dramatic rise in crimes against police officers and the Patrol suffers dark hours with the loss of several officers to criminal attacks. The operation of command posts during the resulting manhunts puts radio operators into situations they had previously seen only on television or in the movies. These command post operations led to the purchase of a transportable emergency tower in 1987. This 54-foot tower system is mounted on a tandem trailer and can be quickly and easily transported to a field site and put into operation. This provides personnel working the operation much better communications than had ever been experienced.

Uninterruptable Power Supplies (UPS) were installed at several troops during 1988. These systems allowed continued use of radio and computer equipment during power outages. Installation at all troops was completed in 1989. Also during 1988, the computerized radio log becomes reality in all nine troops. This system provides many advances over the typewritten log previously used. It also provides a computerized database of accidents, incarcerations, stored vehicles, and stored property. Along with the implementation of computerized radio logging, the IBM System 36 in-house minicomputers are replaced with larger, more powerful IBM AS/400 minicomputers. Communications personnel designated as system coordinators receive extensive training in the use and maintenance of these systems.

On December 1, 1988, the statewide emergency number system goes into operation. 1-800-525-5555 provides callers anywhere in the state with toll-free access to their nearest troop headquarters for emergency matters. The newly remodeled Troop I Headquarters in Rolla received a new telephone system with the remodeling project, and is designated as the primary contact point for persons calling the emergency 800 number from a dial telephone.

Planning begins in 1989 for the conversion of the MULES computer to MULES 3, a new system which will take advantage of the growing capabilities in the computer world. When completed in the first decade of the 21st century, it will provide operators with menu driven or fill-in-the-blank transaction screens. Ultimately, MULES 3, along with NCIC 2000, which is also in development, will allow the retrieval of mugshots and fingerprints along with warrant entries and criminal history responses. The same year, programmable scanners begin replacing the old crystal controlled devices in the Patrol cars and troop headquarters. The Patrol cars had been equipped with crystal controlled scanners since the mid-1970s.

By the end of the 1980s, computer use had risen dramatically and, in 1990, MULES was handling an average of 14½ million transactions per month. Along with this growth was the addition of more and more equipment in the troop radio rooms, resulting in additional crowding and heat generation. A project was begun in 1990, which would result in much of this added equipment being isolated into a sound controlled environment away from the operations consoles.

In 1991, the Patrol began the process to receive national accreditation for the organization. This process eventually impacted every division of the Patrol and caused several new computer systems to come online as well as altering many of our operating procedures. The computerized radio log was also enhanced during the early- to mid-1990s. Among these enhancements were the ability to make multiple source entries and embed vehicle and drivers license inquiries. The former gave radio operators the ability to log multiple officers having the same traffic with a single transaction. The latter allowed radio operators to log an officer's license request a single time in the radio log. The software then extracted the embedded data and generated a MULES inquiry returning the information to another screen on the operator's computer terminal. Many enhancements to the computerized radio log came about due to the input of Patrol radio operators around the state.

During the early 1990s, the office managers at the three troop satellite facilities became a part of the Communications Division and their titles were changed to communications specialists. To enhance the pool of qualified applicants for the division and to ease personnel shortages at the troops, communications specialists (who were not required to be licensed) are approved for employment at the troop headquarters. The first person hired for one of these positions was Katrina Gregg, who was assigned to Troop D, Springfield. Through this process, the division was eventually expanded from the 99 operators it had been authorized for several years, to over 120 operators.

In 1993, Missouri, along with most of the Midwest, was inundated by what will ultimately be termed "The Flood of '93", and the Communications Division is once again at the forefront of changing technology. As a result of the summer floods and the following winter's heavy snowfall, the division began the establishment of an automated road report telephone system. This system was named MARTS -– Missouri Automated Road Report Telephone System.

By 1994, the MULES Training Conference, which began in 1984, reaches its largest attendance of 375 people. Also in 1994, the first installation of new radio equipment was begun at troop F, Jefferson City. This new equipment resulted in the elimination of much of the inter-troop interference and skip from other locations in the Western Hemisphere that had been dealt with over the years. The number of terminal agencies continued to grow and, by 1994, there were nearly 5,000 MULES terminal operators around the state.

Even with 10 training engineers, this necessitated a change in the MULES training program. The new training program became much more streamlined by combining the week-long inquiry and entry schools into a single one week school. This was possible due to the significant amount of material in the entry school that was a repeat of the inquiry school. In time for winter 1994, MARTS is in full operation offering residents a toll-free number (800-222-6400) to access recordings about road conditions around the state. In January 1995, the system handles over a half million calls.

In 1995, the first of a series of personal computer controlled radio consoles is installed at Troop F, Jefferson City. This system, which will be installed in all troop headquarters by mid-summer 1998, replaced the old mechanical control system, which had been used since the early 1950s. Along with this change, each of the radio rooms was completed gutted and remodeled. 1995 also saw the adoption of a validated selection process for Communications Division employees. These tests provided methods for testing many aspects of an applicant's suitability which were previously unable to be accomplished.

By mid-decade, a major change was under way at the troop headquarters. The front desk operation had always been staffed with enforcement personnel. In an effort to put more officers on the road, the desk operation was civilianized under the Field Operations Bureau and staffed with civilian employees who were designated telecommunicators. By 1996, it became obvious that the desk operation was more closely aligned with the Communications Division, and the operation and its personnel became part of the Communications Division. The added personnel increased the division's authorized strength from 126 to 183. By 1997, the title of telecommunicator had replaced that of communications specialist for our unlicensed operators. The adoption of the desk operation provided a greater flexibility in scheduling since personnel could be assigned to either the desk or the radio console.

As the century was nearing its end, the organization's accreditation called for an incident-based reporting system, which our computerized radio log could not adequately handle. Once again, the organization looked into the possibility of adopting an outside vendor's computer aided dispatch system. Several were evaluated and one was ultimately approved for use. The system was piloted for a couple of months at all troops, and in March 1999, it became the official log system for the Highway Patrol.

As with many organizations around the world, there was concern within the Highway Patrol surrounding the approach of the last year of the 20th century and the impact it would have on our computers when calendars ticked over to January 1, 2000. It was pretty much a non-issue. However, behind the scenes, most of the Information Systems Division's efforts leading up to that date were devoted to making it a non-issue.

By 2001, several issues existed which made staffing our Patrol communications centers problematic. In an effort to ease the situation, a plan was devised which would provide several advancement possibilities for communications personnel. Through attrition, our staff of 100 licensed operators was reduced to 82. A new unlicensed position of radio telecommunicator was created with 47 positions coming from the reduction in licensed personnel and conversion of about half of the telecommunicator positions. Under the new staffing structure, telecommunicators would be assigned only to the desk operation. Radio telecommunicators were primarily assigned to the radio console, but could also be assigned to the desk. The licensed staff, also primarily assigned to console work, could also be assigned desk duty and technical duties. Along

with the position changes, advancement paths and plans were created that will allow personnel to obtain training and other certification and advance through the various ranks of the division.

The end of the 20th century and the start of the 21st saw mobile computers becoming an effective tool in law enforcement. By 2002, the Highway Patrol had adopted the tool and began installing the devices in many patrol cars. By 2003, the number of installed units is approaching 600. Additionally, many county and municipal agencies are also using the in-car computers. These additions bring the number of MULES agencies to over 530 by mid-2003 and the number of operators to over 6,000. Because of the NCIC mandate for biennial recertification, the communications training staff is pushed to limits of their ability and time. In 2002, the Patrol entered into a joint program with REJIS to implement an on-line testing program that will allow the thousands of terminal operators the option of recertifying on-line instead of attending classes. The system was operational in August 2003.

The Emergency Alert System (EAS) became a responsibility of the Communications Division in 2004. Prior to the Patrol's involvement, this system distributed only weather related warnings. Utilizing equipment installed by Communications Division personnel, state government has the ability to directly activate AMBER alerts and other civil emergency messages, such as those related to homeland security. Weekly tests of the system keep operators familiar with the equipment and procedures, and verify the operation of the system. Since its implementation, a number of AMBER alerts have been broadcast on EAS. Each alert contributed to a rapid and successful recovery of the victims.

The Communications Division participation in operation "Show-Me Relief" stands out as a significant accomplishment in 2005. Division personnel worked hundreds of man-hours preparing equipment for an undefined mission to the Gulf Region (following the destruction of Hurricane Katrina). The Mobile Command Units were prepared for any conceivable mission and that preparation proved fitting for the tasks they encountered. Six division personnel were deployed to the Gulf to utilize their technical and operations skills in support of 50 troopers on the assignment. These personnel drove the MCU and a support van to and from the assignment and worked three- to a 12-hour shift while in the Gulf. While the work was hard and the hours were long, each person indicated a willingness to return if needed.

The Communications Division continues to expand its history in line with the ever expanding technologies and the needs of the Missouri State Highway Patrol.